



## **DINB100-SA-KIT** Standalone Biometric Kit

### **User Manual**

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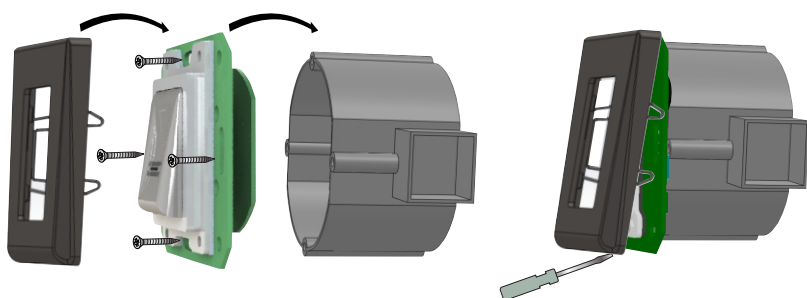
## 1.0 INTRODUCTION

DINB100-SA is a simple one-door standalone biometric system. The reader can store up to 97 finger templates, it has one relay output and one exit button input. If secure installation is needed, the reader can be connected to remote relay unit at secured area, which also plays the role of request-to-exit push button. Proximity reader or keypad can be added for additional entry mode (Card or/and Finger, PIN Code or/and Finger, Finger on Card). Complete setup and programming can be done by scrolling and tapping on the sensor or by keypad menu if keypad is connected.

The sensor incorporates dedicated sensing hardware to facilitate the detection of “spoofing” attacks based on fake fingers. This data is embedded into the image data stream, and is processed on the processor. The system is capable of detecting and defeating well-known fake finger mechanisms, such as molded “gummy” fingers.

DINRTT is remote relay control unit for the DINB100-SA(B100-SA) biometric reader. If secure installation is needed, the biometric reader can be connected to remote relay unit at secured area, which also plays the role of exit push button. It has two relay output and two exit button inputs.

## 2.0 MOUNTING AND DISMOUNTING

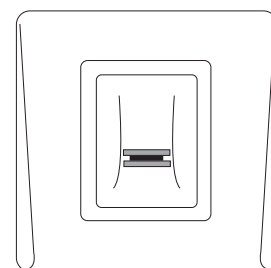


Do not install the device and cabling close to a source of strong electromagnetic fields like radio-transmitting antenna.  
Do not place the device near or above heating equipments.  
If cleaning, do not spray or splash water or other cleaning liquids but wipe it out with smooth cloth or towel.  
Do not let children touch the device without supervision.  
Note that if the sensor is cleaned by detergent, benzene or thinner, the surface will be damaged and the fingerprint can't be entered.

## 3.0 SPECIFICATIONS

### SPECIFICATIONS DINB100-SA

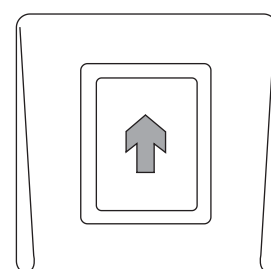
Fingerprint Capacity:	97 templates
Output:	1 x Relay (2A/24V AC/DC)
Push Button Input:	Yes
Door Open Time:	Pulse (1, 3, 5, 10, 20, 30, 60sec) or Toggle(ON/OFF)
Entry Mode:	Finger (Basic installation) Finger or/and Card (when used with card reader DIN Card reader) Finger or/and PIN code (when used with keypad DINPAD-M) Finger on Card (when used with mifare reader DINMTPX-MF)
Programming:	By scrolling and tapping on the sensor or by keypad
Master/Admin Fingers:	1 Master and 2 Admin Fingers
Image resolution:	Up to 508 DPI
Backlight ON/OFF:	Yes
Buzzer ON/OFF:	Yes
Firmware upgrade:	via RS485 converter and windows application
Current Consumption:	100 mA max.
Power Supply:	9-14 V DC
Indication:	Tricolor Status LED and 4 x Programming LEDs
Mounting:	Flush mount
IP Factor:	IP40
Storage/Operating Temperature:	-20°C to +50°C
Storage/Operating Humidity:	5% to 93% RH without condensation
Dimensions(mm):	80 x 80 x 9



DINB100-SA

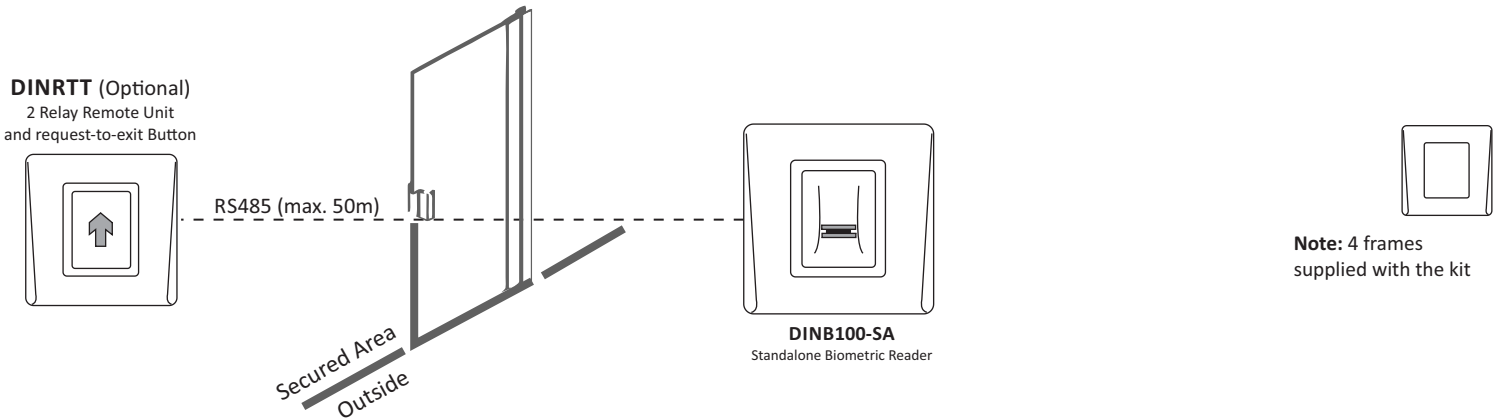
### SPECIFICATIONS DINRTT

Output:	2 x Relay (2A/24V AC/DC)
Push Button Input:	2
Door Time:	Pulse (1 to 60sec) or Toggle (ON/OFF)
Backlight ON/OFF:	Yes
Buzzer ON/OFF:	Yes
Power Supply:	9-14 V DC
Current Consumption:	60 mA
Mounting:	flush mount
IP Factor:	IP40 (indoor use only)
Operating Temperature:	-20°C to +50°C
Dimensions:	80 x 80 x 9



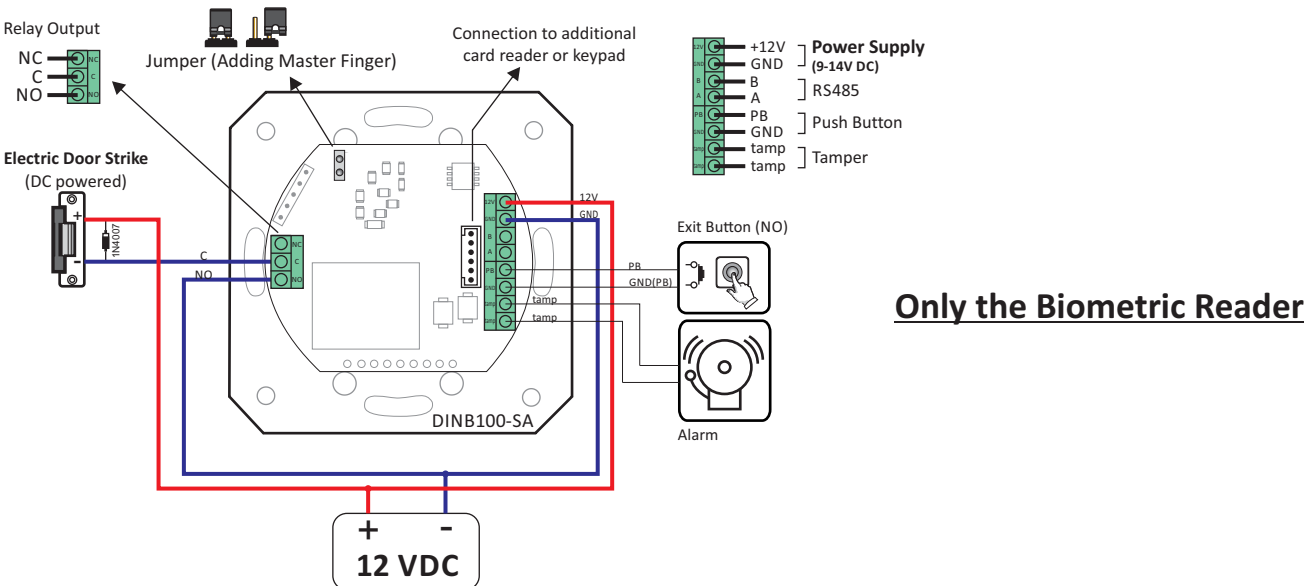
DINRTT

## 4.0 APPLICATION DIAGRAM

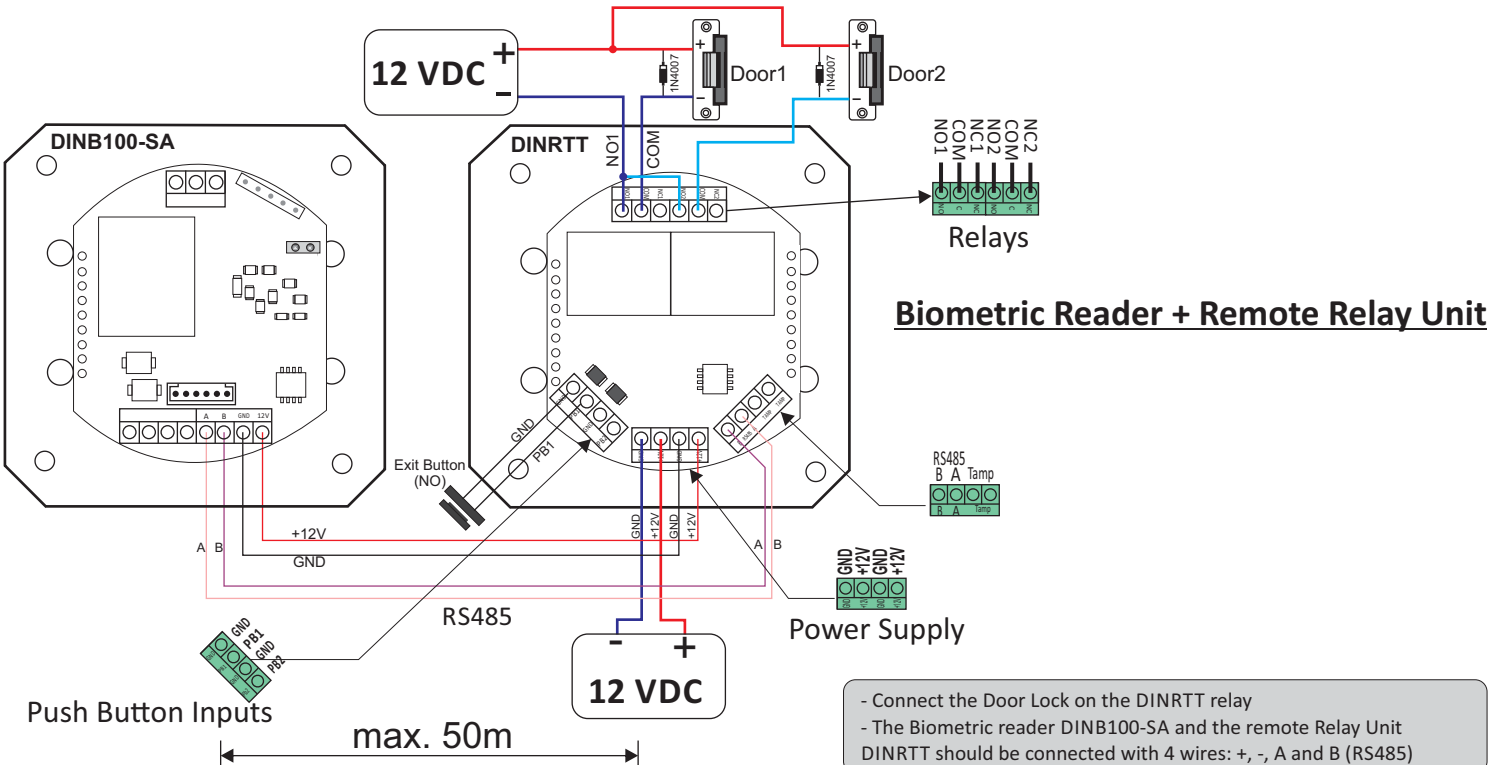


## 5.0 WIRING

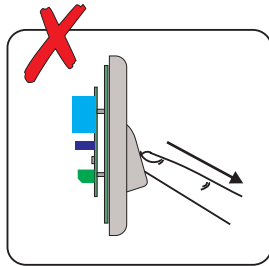
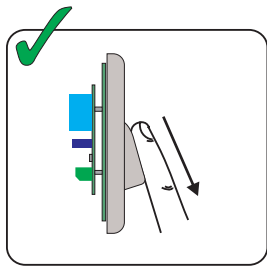
## Wiring DINB100-SA



### Wiring DINB100-SA + DINRTT (Remote Relay Unit)



## 6.0 RECOMMENDED SWIPING TECHNIQUE



Follow the below instructions for correct finger swiping  
Starting from the first finger joint, place the selected finger on the swipe sensor and move it evenly towards oneself in one steady movement.

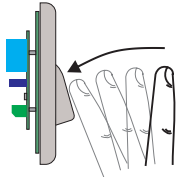
### **Result:**

**For a valid swipe:** Tricolour Status LED turns green + OK Beep(short + long beep)

**For an invalid or misread swipe:** Tricolour Status LED turns red + Error Beep ( 3 short beeps)

### 6.1 Taping the sensor

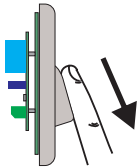
Tap the sensor to enter Submenu or to confirm a command



**Enter and confirm**

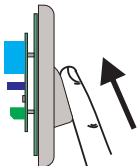
### 6.2 Scrolling the sensor up and down

Scroll the sensor DOWN to navigate the programming menu



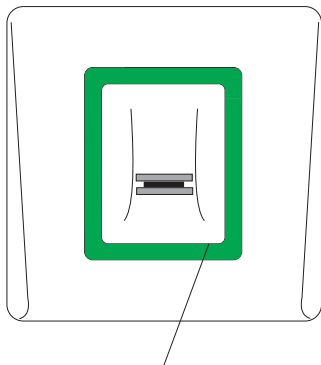
**Navigate the Programming Menu**

Scroll the sensor UP to exit the programming menu

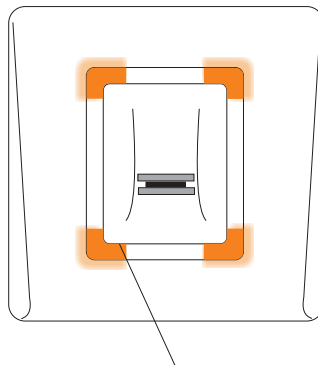


**Exit the Programming Menu**

## 7.0 INDICATION



**Tricolor Status LED**  
Green - Access Granted  
Red - Access denied  
Orange - Idle Mode



**4 x Tricolor Programming LEDs**  
(red, green, orange)

**OK Beep** - short + long beep

**Error Beep** - 3 short beeps

**Swipe Again** - 2 short beeps

## 8.0 QUICK PROGRAMMING

### 8.1 Adding Master Finger and delete all users

1. Close the jumper on the back of the device.



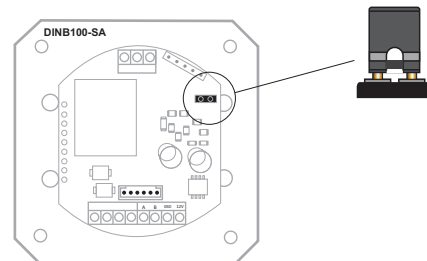
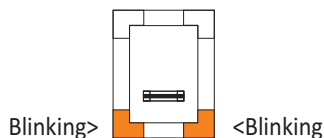
2. Reset the Power of the device.

3. Wait for One long + multiple short beeps

4. Open the jumper. (short beeps will stop)



5. Wait for the bottom row LEDs to blink in Orange.



6. Swipe the Master finger min.6 times. (Until Ok Beep)



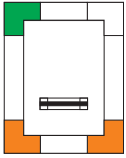
**Note:** After enrolling the Master finger the device will auto-Reset (wait for 7 seconds and the OK beep).

**Note:** This procedure also deletes all the users and administrators previously enrolled.

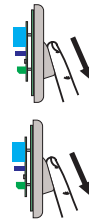
1. There is 1 Master Finger. The master finger can enroll/delete user and all the other settings. The Master finger can be changed ONLY with the jumper.
2. There are 2 Administrator Fingers. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.
3. The User can be assigned to one of the 8 available User Groups. With the Quick programming feature, the Users are assigned in Group 1 or Group 2. For most of the installations 2 groups are enough and can be used as: Group 1 for permanent residents, Group 2 for guest and visitors.
4. The user can be deleted by swiping its user finger or by deleting the group in which that user is enrolled. Once the Group of users is deleted, all the users within that group will be deleted.
5. The Groups are not limited by the number of users. (ex. Group 1 can contain 20 users, Group 2 can contain 70 users, but the total number must remain below 97...)

## 8.2 Add User In Group 1

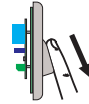
Figure.1



1. Swipe the Master or Admin Finger
2. Swipe the user finger min. **6 times** (until Ok Beep)



Master Finger x 1



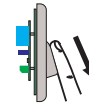
User Finger x 6

## 8.3 Add User In Group 2

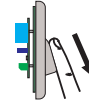
Figure.2



1. Swipe the Master or Admin Finger **twice**
2. Swipe the user finger min. **6 times** (until Ok Beep)



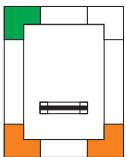
Master Finger x 2



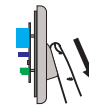
User Finger x 6

## 8.4 Delete User

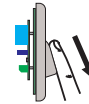
Figure.1



1. Swipe the Master or Admin Finger
2. Swipe the user finger (already enrolled)



Master Finger x 1



User Finger x 1

## 8.5 Delete All Users in Group 1

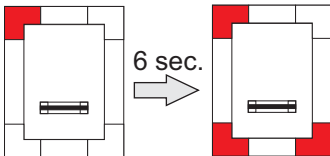
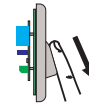


Figure.4

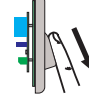
1. Swipe the Master or Admin finger **3 times**,
2. Wait **6 seconds** for the light pattern on figure.4
3. Swipe the Master or Admin finger **once more**

**Note:** All fingers that are enrolled in Group 1 will be deleted.



Master Finger x 3

*wait 6 seconds*



Master Finger x 1

## 8.6 Delete All Users in Group 2

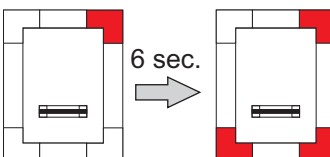


Figure.6

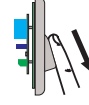
1. Swipe the Master or Admin finger **4 times**,
2. Wait **6 seconds** for the light pattern on figure.6
3. Swipe the Master or Admin finger **once more**

**Note:** All fingers that are enrolled in Group 2 will be deleted.



Master Finger x 4

*wait 6 seconds*



Master Finger x 1

If you make any mistake or you just simply want to **exit** Quick Programming, wait for the timeout of **10 seconds**.

With this, the quick programming is completed. The system is now operational with default value for Door Open Time of **3 seconds**.

For more comprehensive programming, refer to the “**DINB100-SA Programming**” section.

### Important:

When using proximity reader for **Finger Or/And Card Mode**, first present the Card then swipe the finger min. **6 times**.

When using keypad for **Finger Or/And Pin Code mode** first enter the PIN Code, then swipe the finger min. **6 times**.

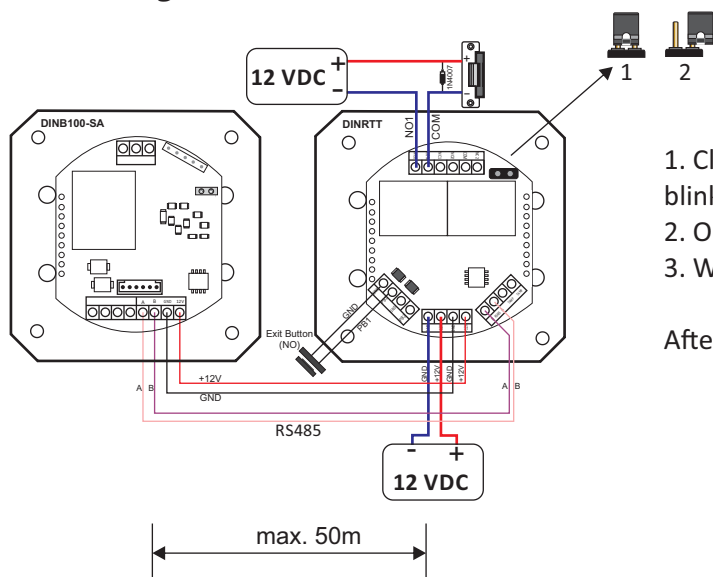
When using Mifare card reader for **Finger On Card Mode** first swipe the finger min. **6 times**, then present a Card.

For Fast Deleting a user in **Finger On Card** mode swipe the Master or Admin finger then present an existing user card

## 9.0 PAIRING - BIOMETRIC READER AND REMOTE RELAY UNIT

If secure installation is needed, the reader can be connected to remote relay unit at secured area, which also plays the role of request-to-exit push button. Follow the instructions bellow to pair(couple) both devices or refer to the Remote Relay's Manual.

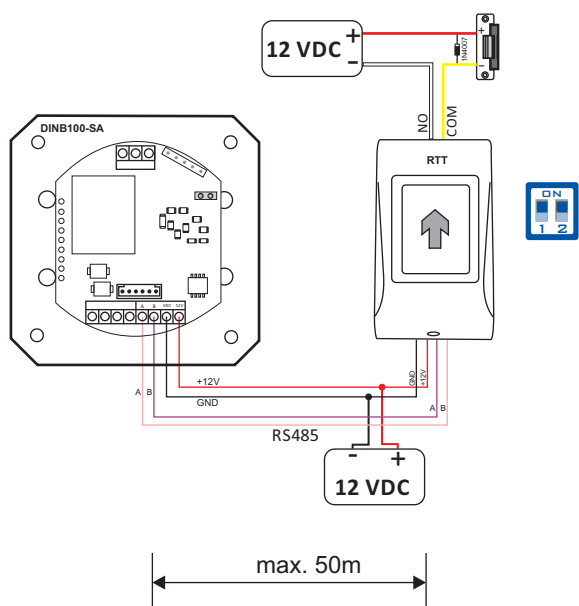
### 9.1 Pairing DINB100-SA with DINRTT



1. Close the Jumper. DINRTT beeps continuously and the red led blinks.
2. Open the Jumper
3. Wait for Beep + OK Beep (short + short + long beep)

After the OK beep, the coupling is done.

### 9.2 Pairing DINB100-SA with RTT



1. Put Dipswitch No.1 to position ON. RTT beeps continuously and the red led blinks.
2. Put Dipswitch No.1 to position OFF.
3. Wait for Beep + OK Beep (short + short + long beep)

After the OK beep, the coupling is done.

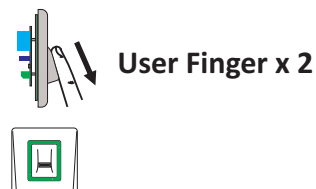
## 10.0 KEEP THE DOOR UNLOCKED

Swipe ANY enrolled finger twice (within 7 seconds) and the Door will stay unlocked, until valid finger is swiped.

While the door is unlocked the tricolor status LED stays green.

To use this feature, enable the same from the menu.(page 15). It applies for product version 1.0.2.0.0 and above.

**Note:** Make sure that the door lock can withstand activation in longer periods.

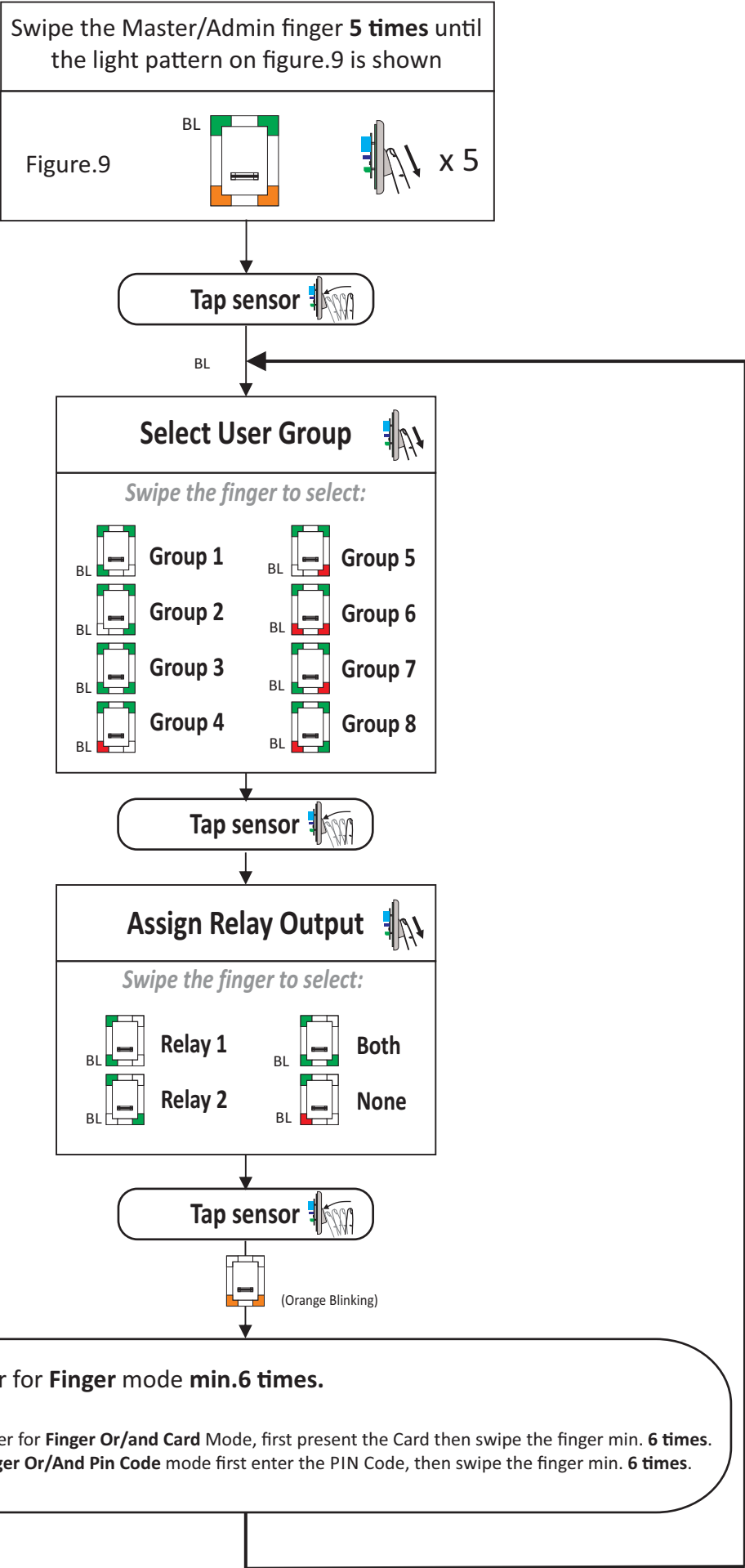




11.0 DINB100-SA PROGRAMMING MENU



11.1 Adding Users



**NOTE:**  
Swipe **UPWARDS**  
to exit the **MENU**

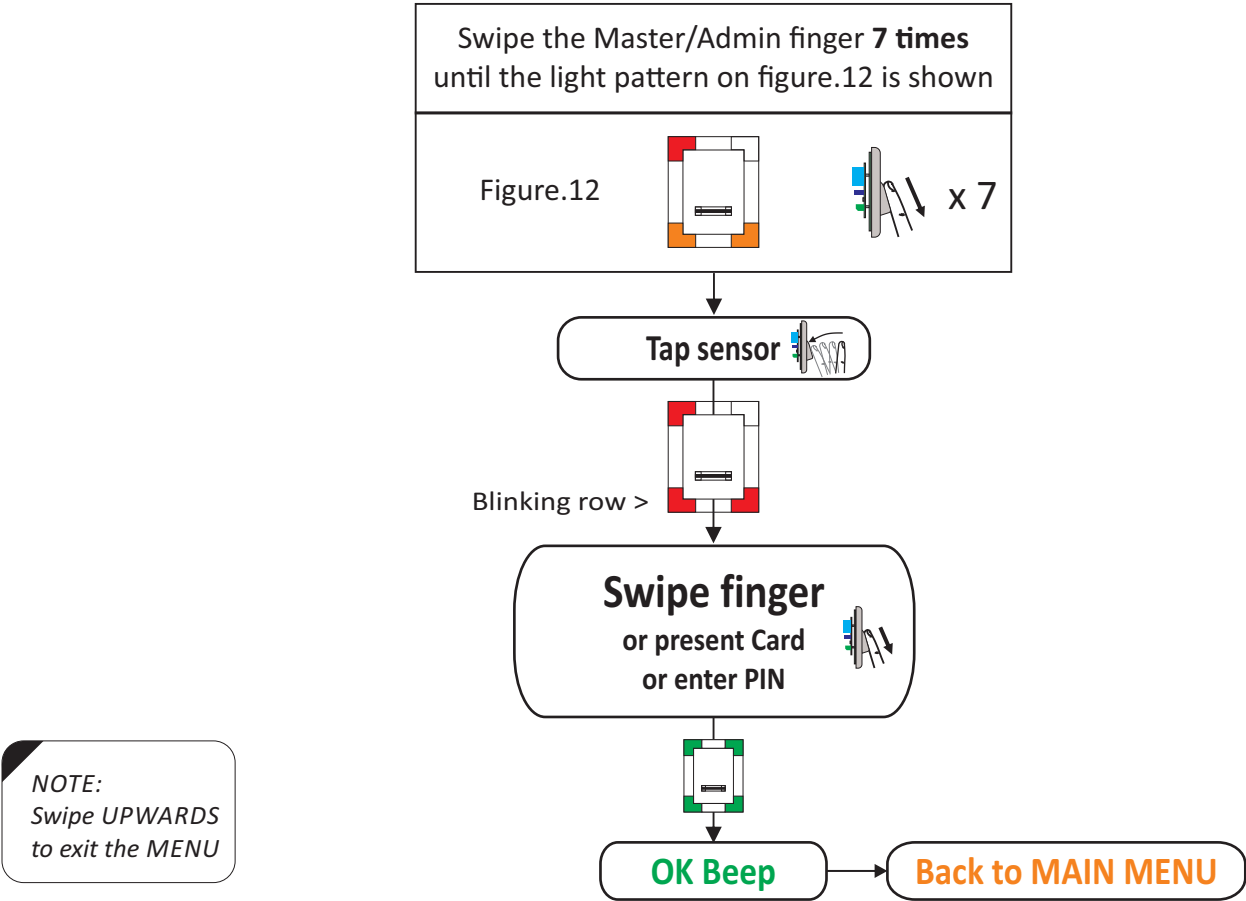
Example:  
Task: Add a user in Group2, that will activate Relay1.

Scroll Master Finger 5 times, tap, scroll ones, tap, tap, swipe user finger 6 times, swipe UP to exit.

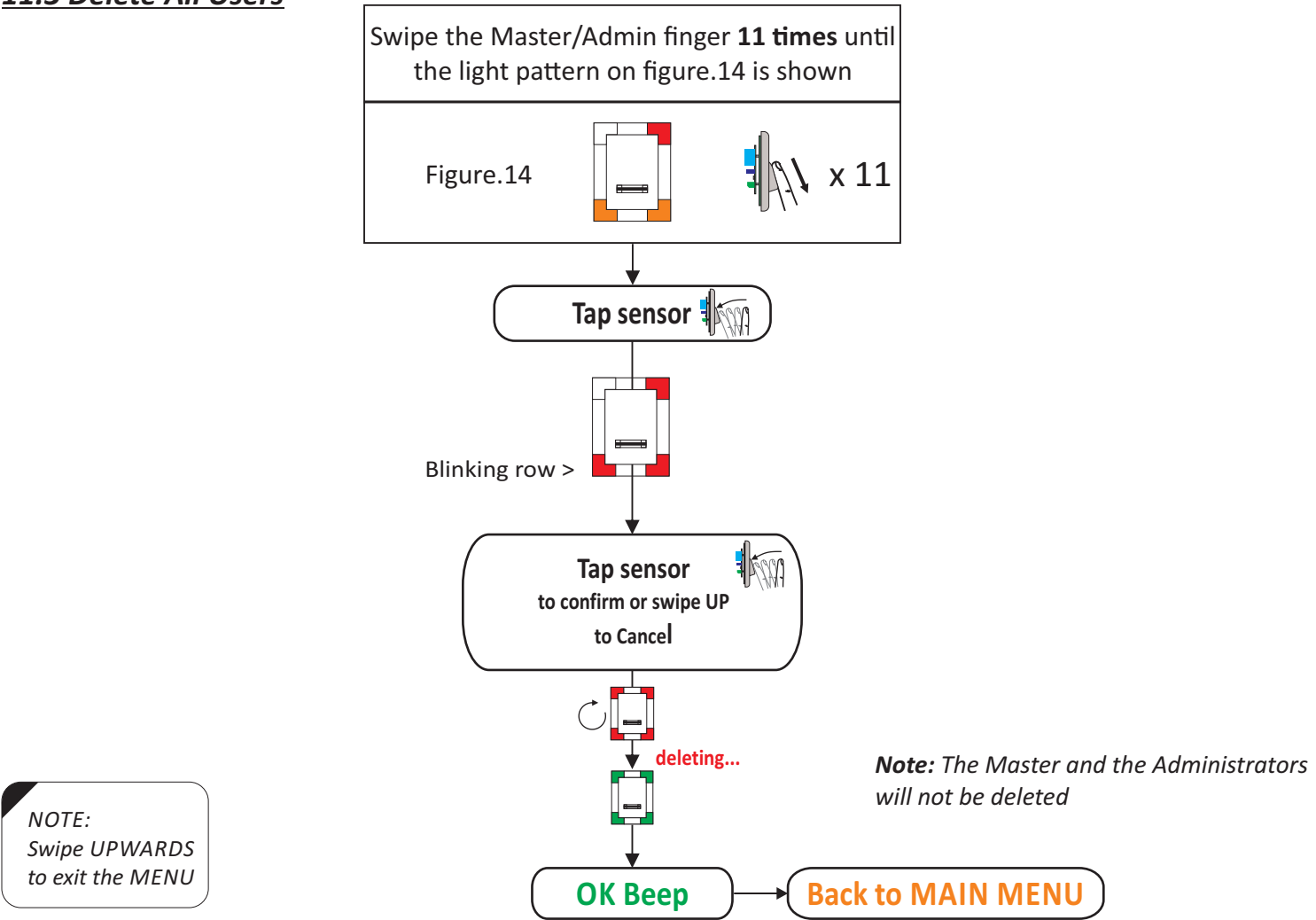
11.0 DINB100-SA PROGRAMMING MENU



11.2 Delete User

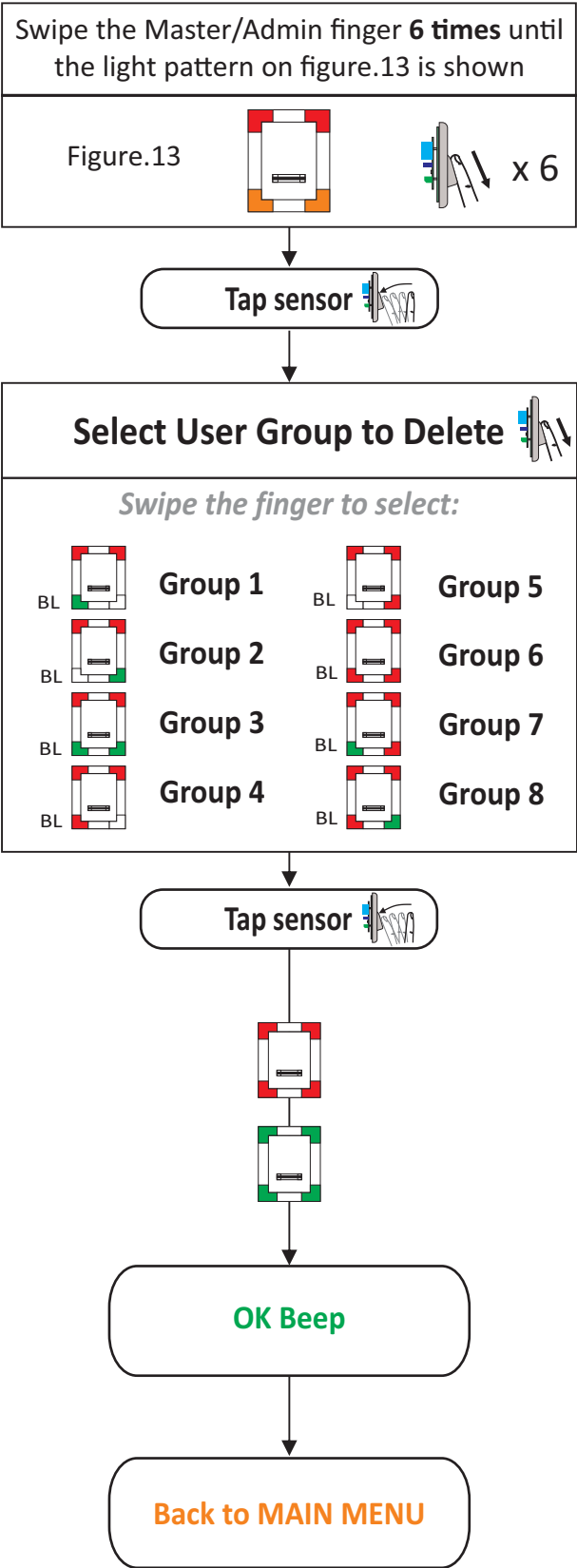


11.3 Delete All Users



11.0 DINB100-SA PROGRAMMING MENU

11.4 Delete Group of Users



**NOTE:**  
Swipe **UPWARDS**  
to exit the **MENU**

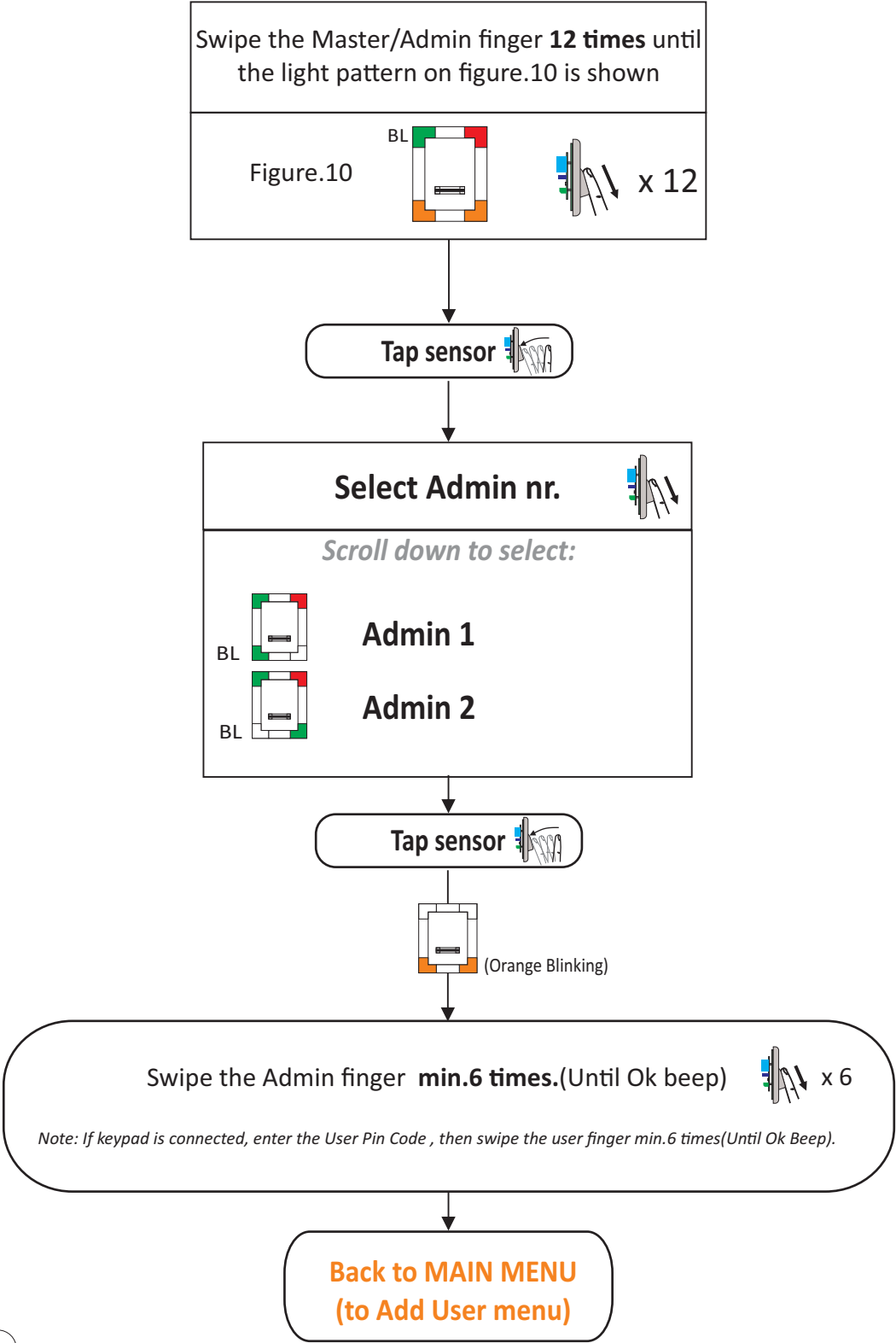
**Note:** All fingers that are enrolled in the Group will be deleted.

Example:  
Task: Delete all users in Group3

Scroll Master Finger 6 times, tap, scroll twice, tap, swipe UP to exit.

11.0 DINB100-SA PROGRAMMING MENU

11.5 Add Administrator

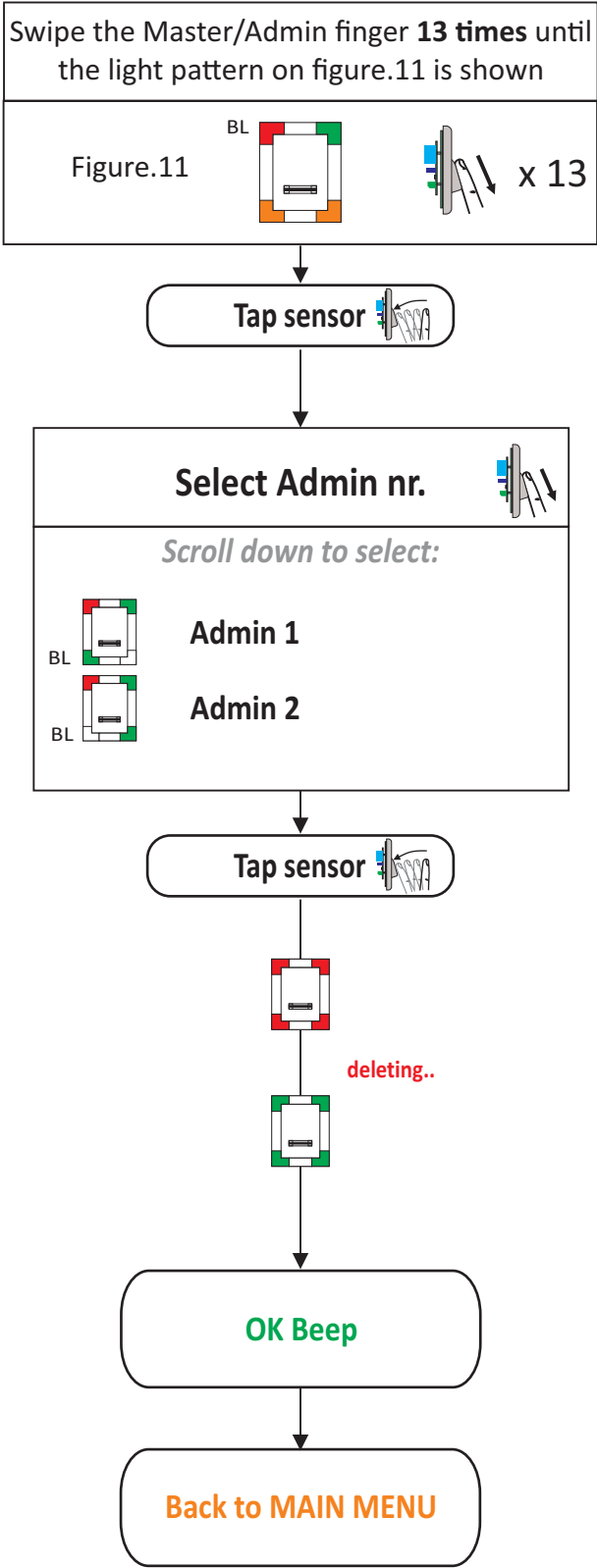


**NOTE:**  
Swipe UPWARDS  
to exit the MENU

- There is 1 Master Finger. The master finger can enroll/delete user and all the other settings.
- The Master finger can be changed ONLY with the jumper.
- There are 2 Administrator Fingers. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.



11.6 Delete Administrator

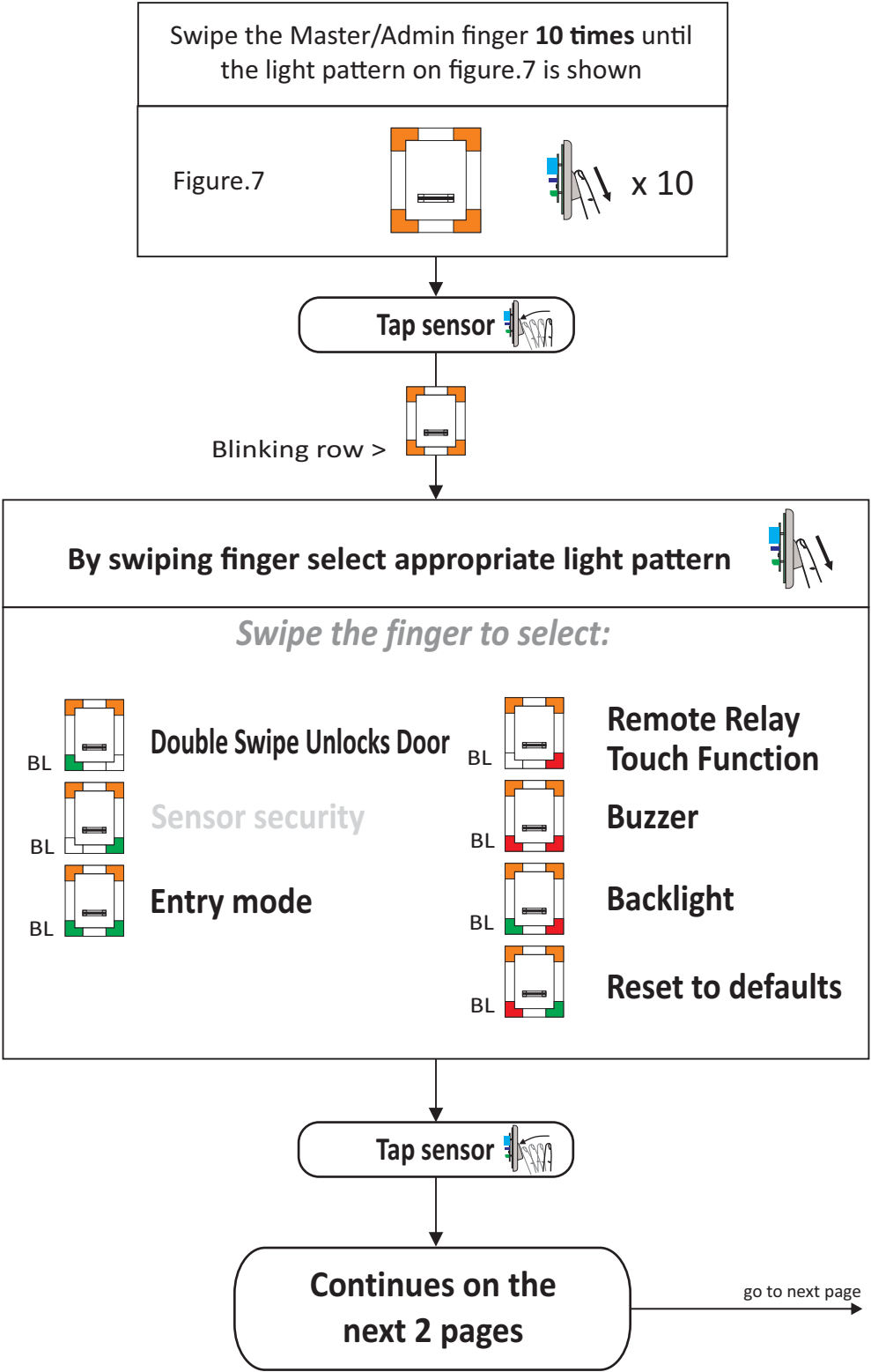


NOTE:  
Swipe UPWARDS  
to exit the MENU

- There is 1 Master Finger. The master finger can enroll/delete user and all the other settings.
- The Master finger can be changed ONLY with the jumper.
- There are 2 Administrator Fingers. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.



11.7 Settings



**NOTE:**  
Swipe **UPWARDS**  
to exit the MENU

**Entry Mode** - used when additional proximity or keypad reader is connected  
**Remote Relay Touch Function** - Enabling/Disabling the Touch Button Function in the remote relay Unit  
**Buzzer** - Enabling/Disabling the Buzzer  
**Backlight** - Enabling/Disabling the Backlight

11.0 DINB100-SA PROGRAMMING MENU



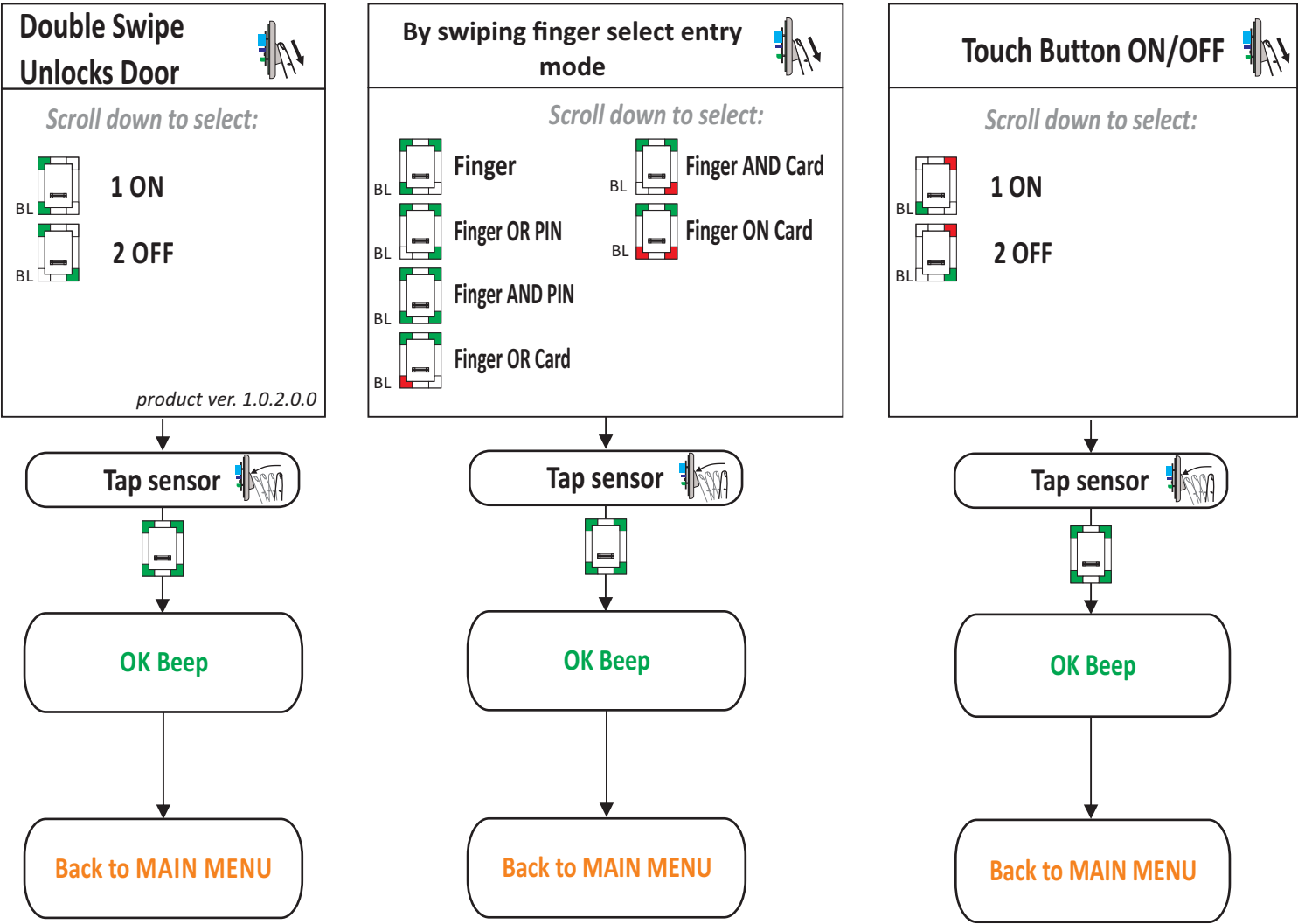
11.7 Settings

11.7.1 Double Swipe Unlocks Door, Entry Mode, Remote Relay Touch Function

Double Swipe  
Unlocks Door

Entry MODE

Remote Relay  
Touch Function



Note:  
Refer to Chapter 10 for this feature

NOTE:  
Swipe UPWARDS  
to exit the MENU

Example:  
Task: Set the Reader to work in “Finger and Card” mode

Scroll Master Finger 10 times, tap, scroll twice, tap, scroll 4 times, tap, swipe UP to exit.

11.0 DINB100-SA PROGRAMMING MENU



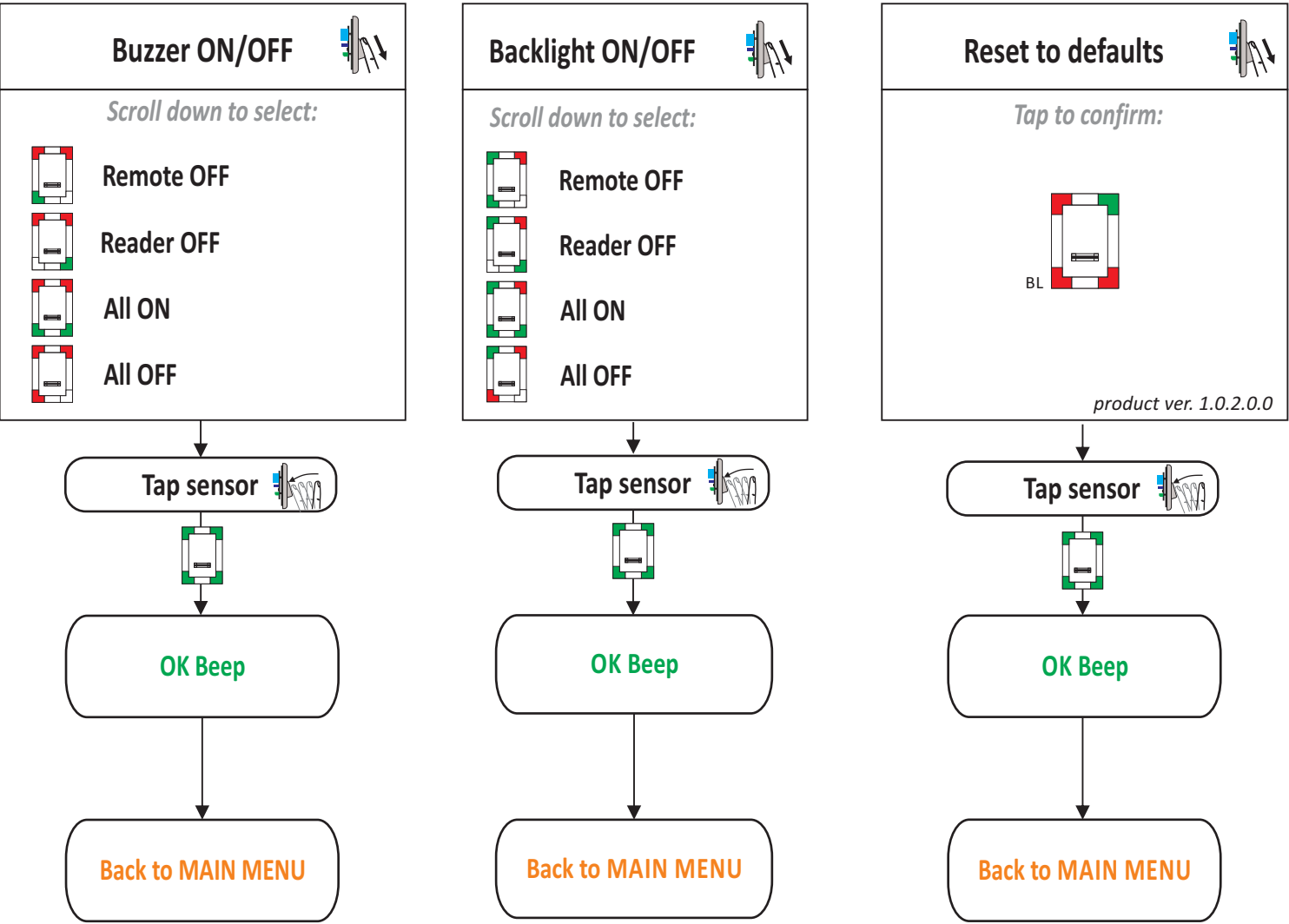
11.7 Settings

11.7.2 Buzzer Sound, Backlight, Reset to defaults

Buzzer sound

Backlight

Reset to defaults



Note:  
Does not affect the fingerprints  
stored and the pairing

NOTE:  
Swipe UPWARDS  
to exit the MENU

Example:  
Task: Put the Buzzer OFF.  
  
Scroll Master Finger 10 times, tap, scroll 4 times, tap, scroll ones, tap,, swipe UP to exit.



11.0 DINB100-SA PROGRAMMING MENU

11.8 Set Door Relay Time



**Relay1 time**  
(for Relay 1 in DINB100-SA, RTT and DINRTT )

Swipe the Master/Admin finger **8 times**

Tap sensor

Blinking row >

**Select relay open time**

*Scroll down to select:*

<b>1 sec</b>	<b>20 sec</b>
<b>3 sec</b>	<b>30 sec</b>
<b>5 sec</b>	<b>60 sec</b>
<b>10 sec</b>	<b>Toggle</b>

Tap sensor



**OK Beep**

**Back to MAIN MENU**

**Relay2 time**  
(for Relay 2 in DINRTT Remote Relay Unit)

Swipe the Master/Admin finger **9 times**

Tap sensor

Blinking row >

**Select relay open time**

*Scroll down to select:*

<b>1 sec</b>	<b>20 sec</b>
<b>3 sec</b>	<b>30 sec</b>
<b>5 sec</b>	<b>60 sec</b>
<b>10 sec</b>	<b>Toggle</b>

Tap sensor



**OK Beep**

**Back to MAIN MENU**

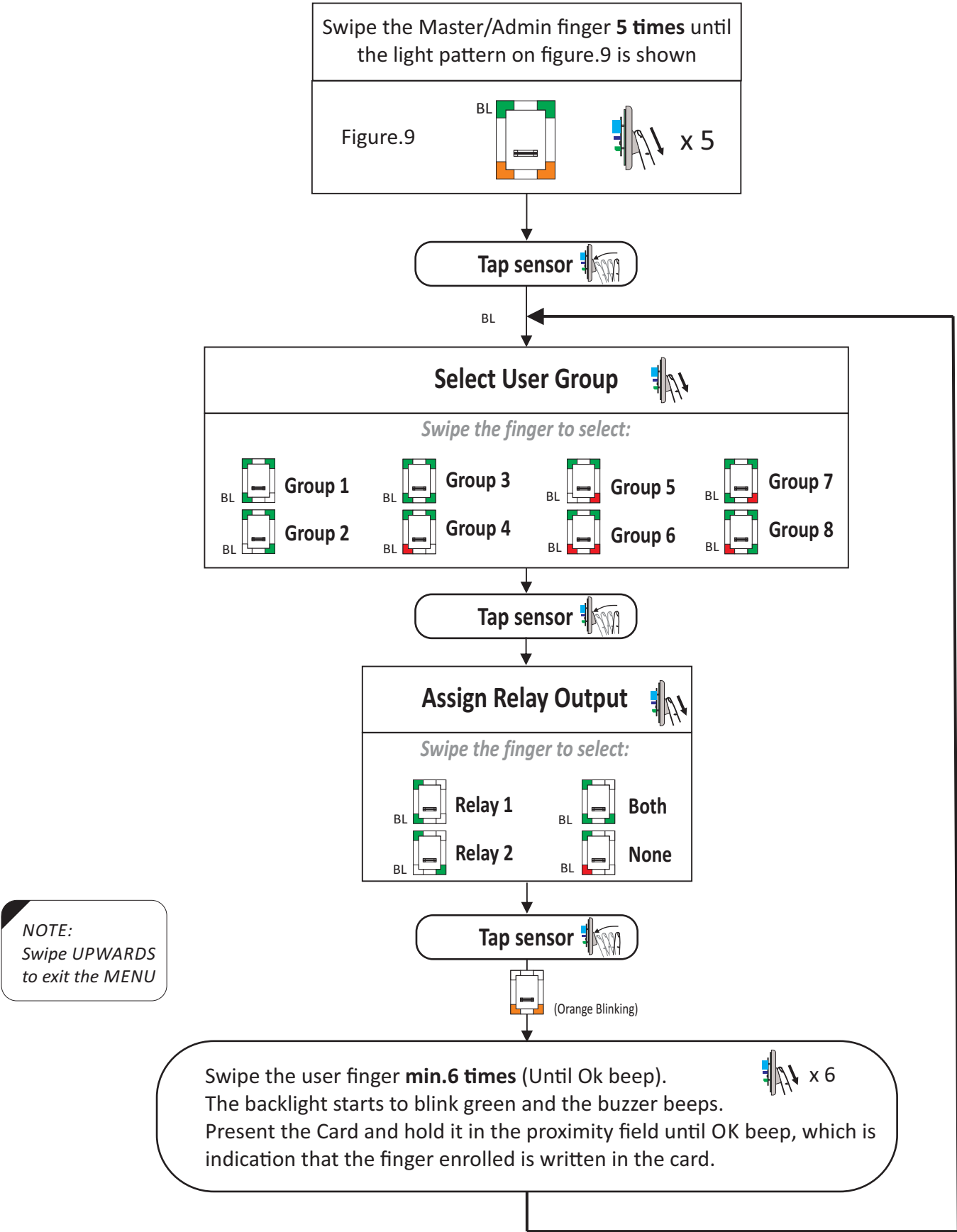
**NOTE:**  
Swipe **UPWARDS**  
to exit the **MENU**

Example:  
Task: Put Relay1 to stay activated 10 seconds.  
  
Scroll Master Finger 8 times, tap, scroll 3 times, tap,, swipe UP to exit.

11.0 DINB100-SA PROGRAMMING MENU



11.9 Adding Users In Finger On Card Mode (when Mifare Reader is connected)



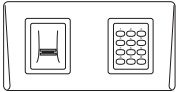
NOTE:  
Swipe UPWARDS  
to exit the MENU

In “Finger on Card” mode, the fingerprint is stored only into the Mifare card (Mifare Classic 1K/4K or DesFire) and not in the reader. The matching is done by first presenting the card, then swiping the finger. According to this, the system in “finger on Card” mode does not have capacity limit. Furthermore, the fingerprint is not stored in the reader’s memory, which disables any misuse of the stored fingerprint templates

Example:  
Task: Add a user in Group2, that will activate Relay1.

Scroll Master Finger 5 times, tap, scroll ones, tap, tap, swipe user finger 6 times, present the card, swipe UP to exit.

12.0 PROGRAMING DINB100-SA WITH KEYPAD



12.1 Adding Users

**Important:**

To use the keypad for programming, Master Finger must be enrolled. Please refer to **page 6**, to enroll Master finger. Then, set the Entry Mode to "Finger or PIN". Please refer to **page 14 & 15** to set the reader in "Finger or PIN" mode. In addition to that, **set the keypad** to work with the biometric reader:

Press **B+000000**

Press **0**

Press **2** - slave mode

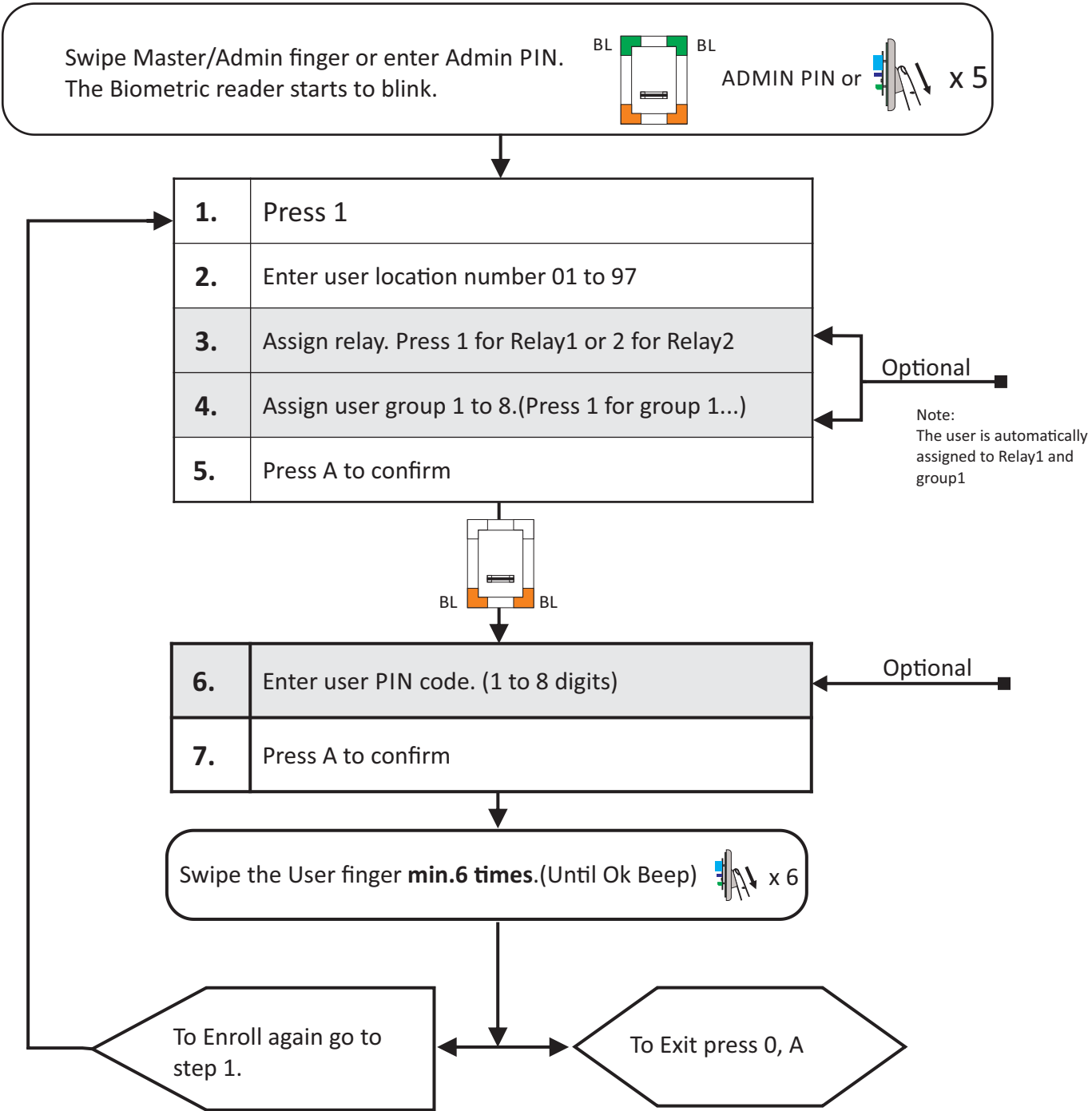
Press **A**

Press **B+000000**

Press **4**

Press **0** - Any PIN Code length with "A" in the end

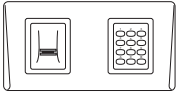
Press **A**



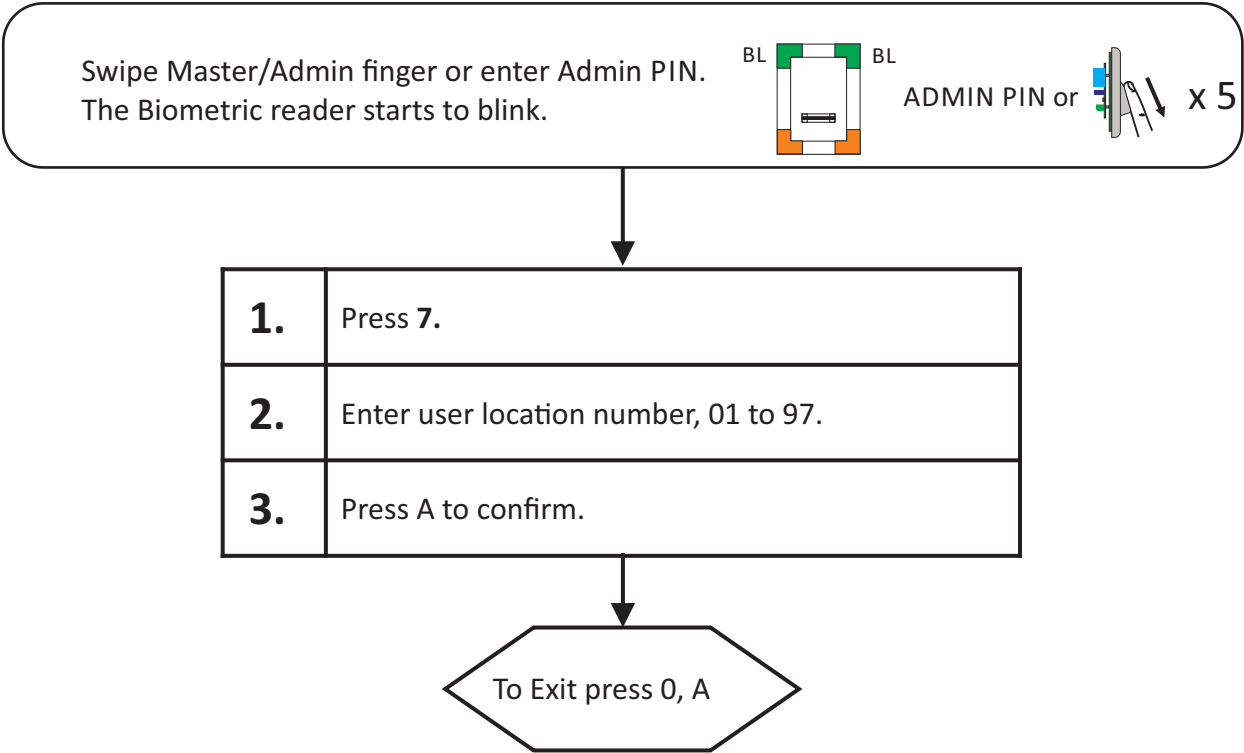
Example:  
Task: Add a user no.5, with PIN Code: 12345, that will activate Relay1.

Scroll Master Finger 5 times, press 1, press 05, press A, press 12345, press A, Swipe Finger 6 times, press 0,A to exit

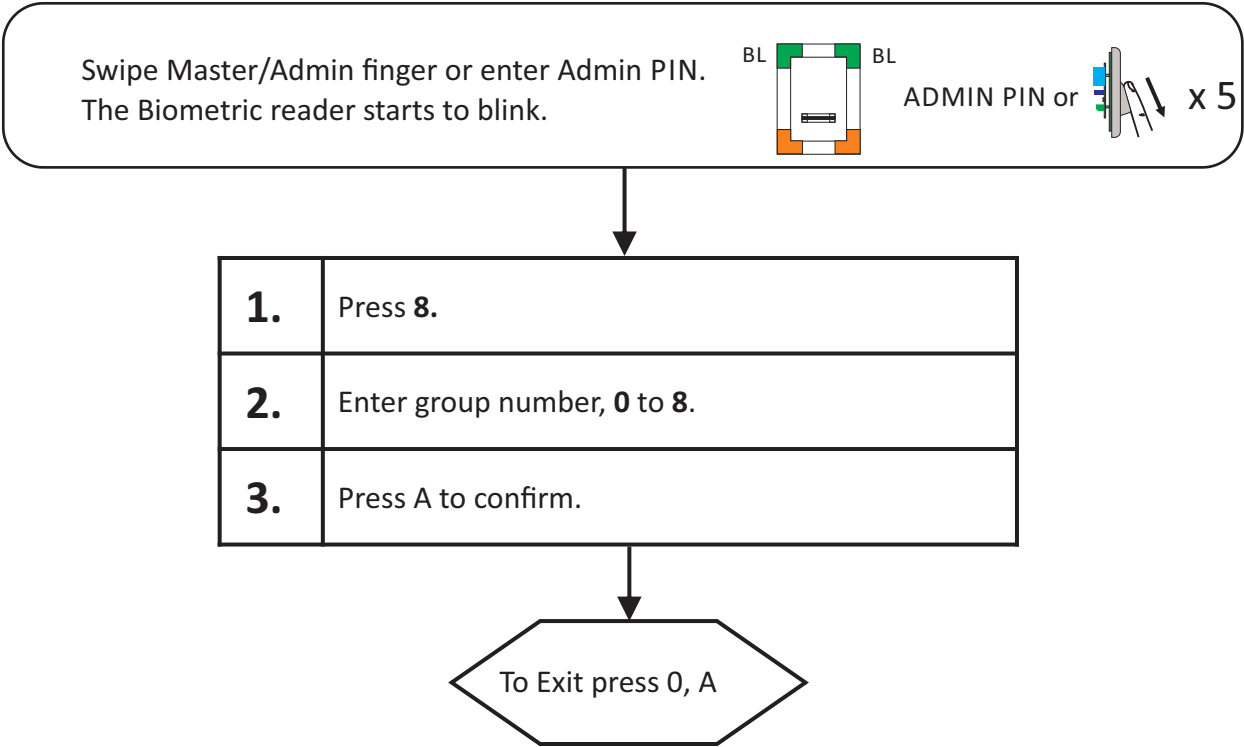
12.0 PROGRAMING DINB100-SA WITH KEYPAD



12.2 Delete User By User Location Number

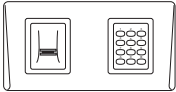


12.3 Delete User Group

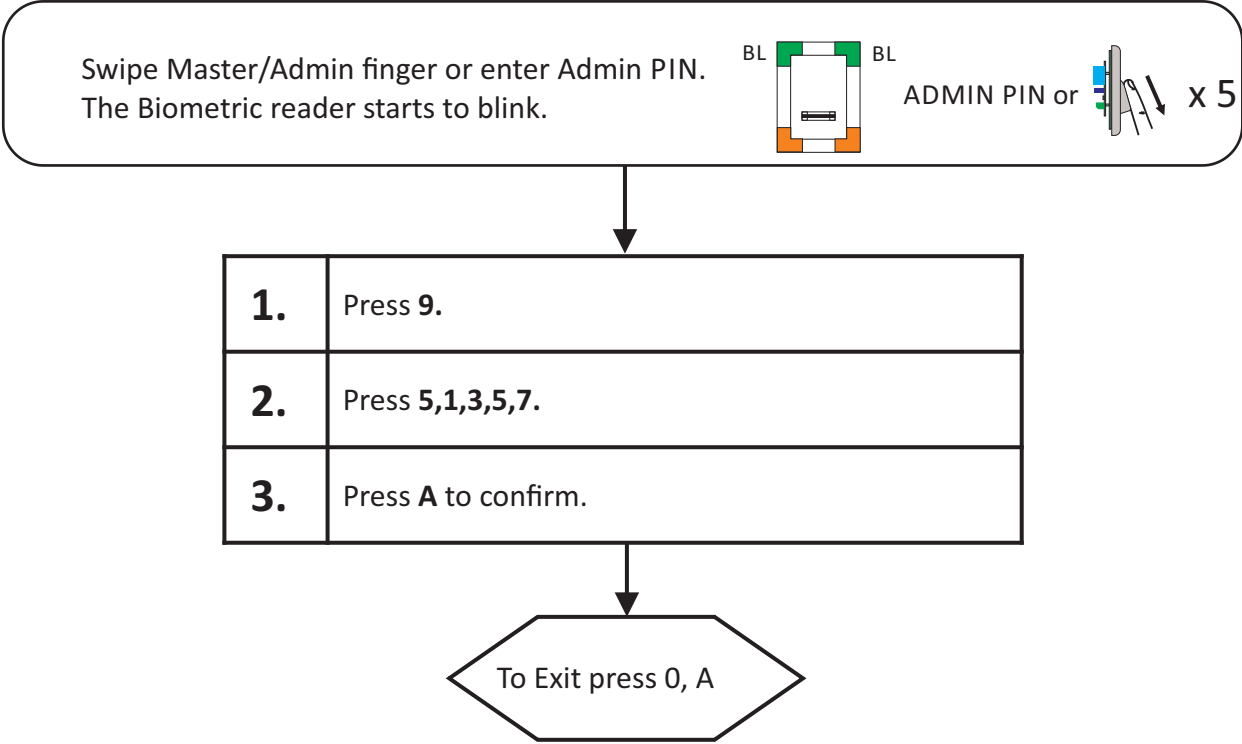


**Note:** All fingers that are enrolled in the Group will be deleted.

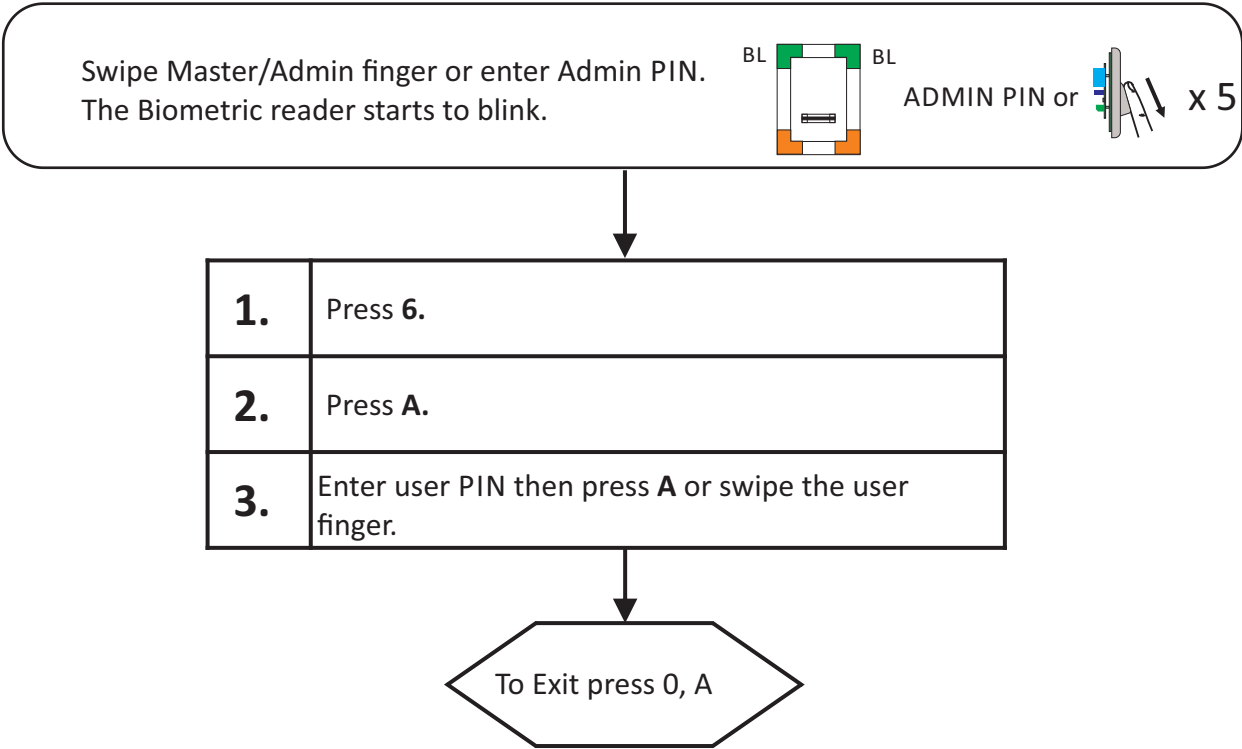
12.0 PROGRAMING DINB100-SA WITH KEYPAD



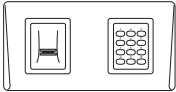
12.4 Delete All Users



12.5 Delete User by User Finger



12.0 PROGRAMING DINB100-SA WITH KEYPAD



12.6 Set Door Relay Time

Swipe Master/Admin finger or enter Admin PIN.  
The Biometric reader starts to blink.

BL

BL

ADMIN PIN or x 5

1.

Press 2.

2.

Press 1 or 2 to select Relay1 or Relay2

3.

Select the time code from the Table1.

Table1.

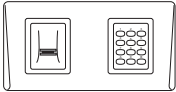
Time Codes	Time Mode
1	1 sec
2	3 sec
3	5 sec
4	10 sec
5	20 sec
6	30 sec
7	60 sec
8	Toggle

4.

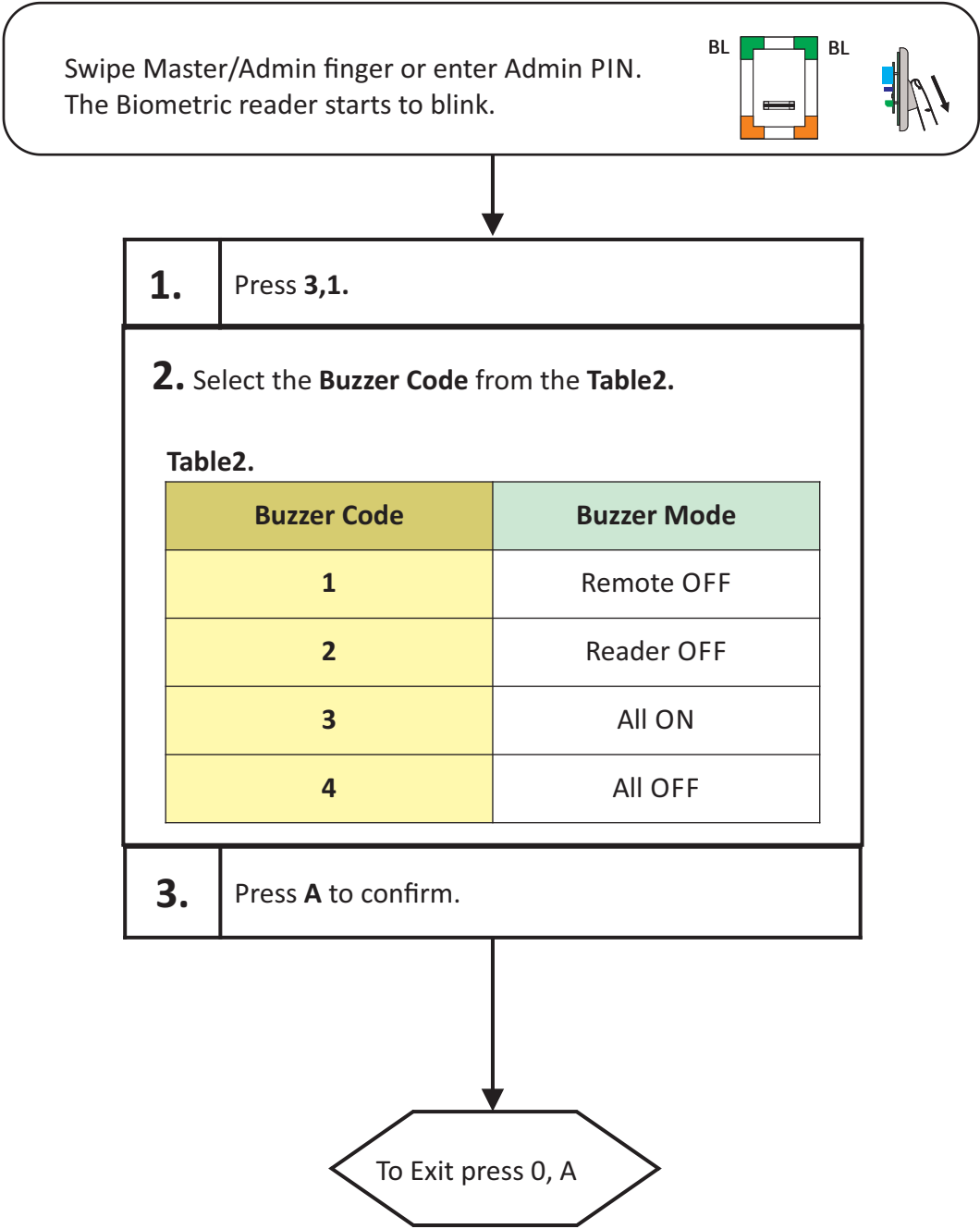
Press A to confirm.

To Exit press 0, A

Example:  
Task: Put Relay1 to stay activated 10 seconds.  
  
Scroll Master Finger 5 times, press 2, press 1, press 4, press A, press 0,A to exit.

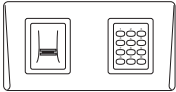


12.7 Buzzer Settings

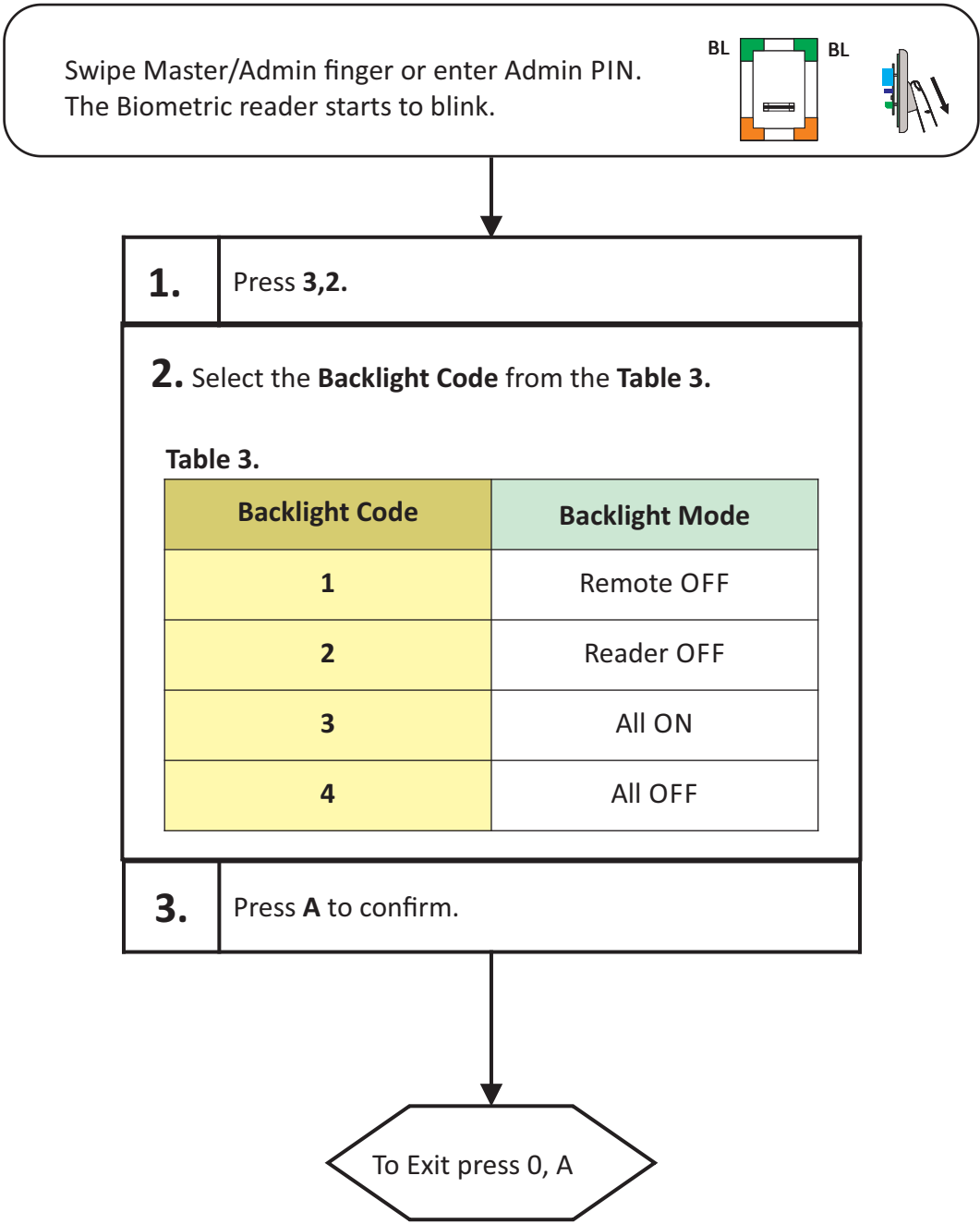


**Note 1:** When “Remote OFF” is selected, the buzzer is OFF in the remote relay unit. In the biometric reader and in the keypad the buzzer is ON.

**Note 2:** When “Reader OFF” is selected, the buzzer is ON in the remote relay unit. In the biometric reader and in the keypad the buzzer is OFF.



12.8 Backlight Settings

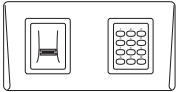


**Note 1:** When “Remote OFF” is selected, the backlight is OFF in the remote relay unit. In the biometric reader and in the keypad the backlight is ON.

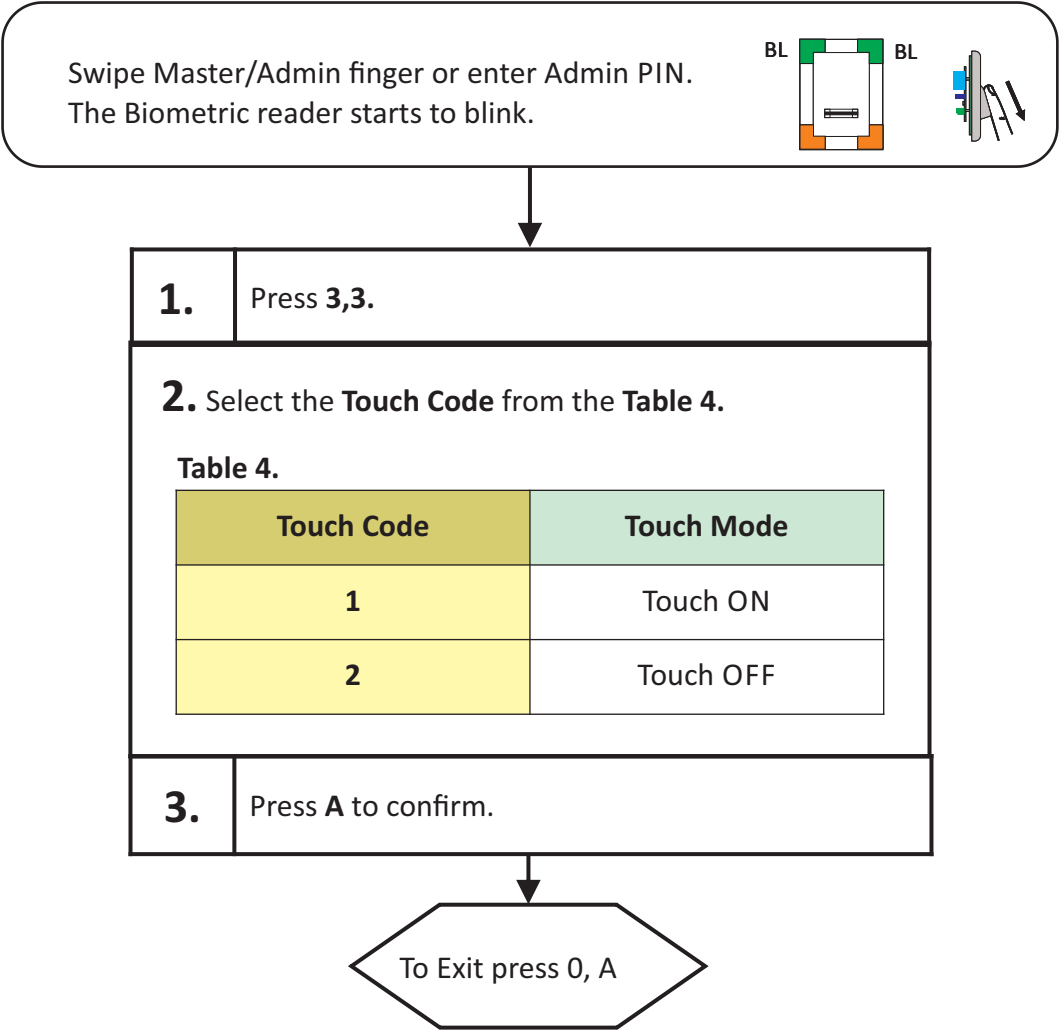
**Note 2:** When “Reader OFF” is selected, the backlight is ON in the remote relay unit. In the biometric reader and in the keypad the backlight is OFF.



12.0 PROGRAMING DINB100-SA WITH KEYPAD

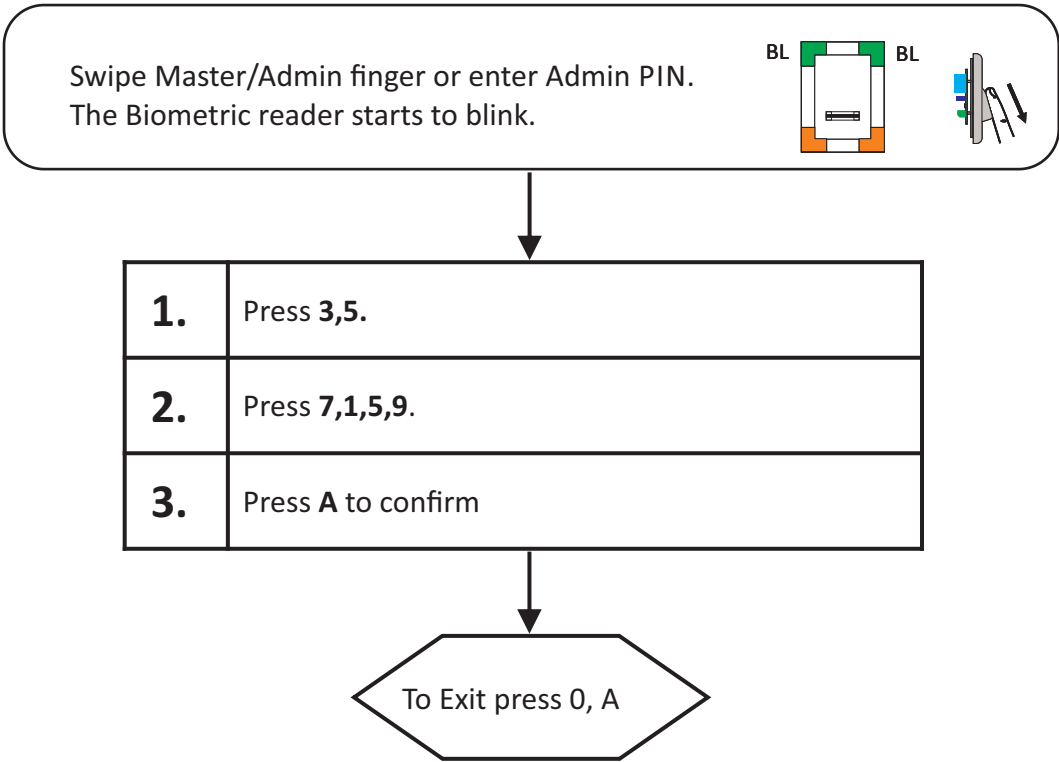


12.9 Set the Touch Button Function

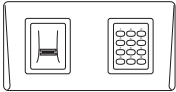


Remote Relay Touch Function - Enabling/Disabling the Touch Button Function in the remote relay Unit

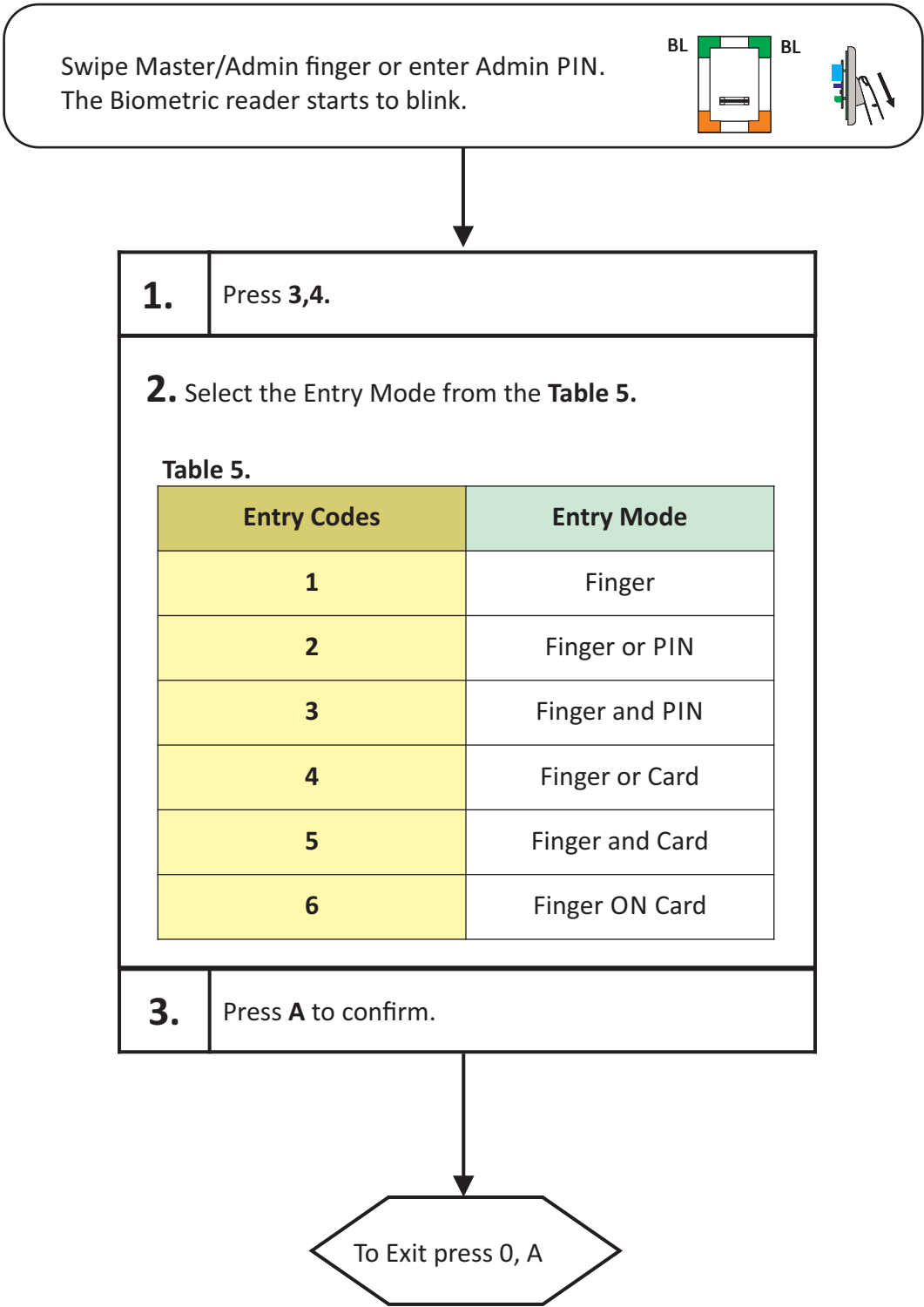
12.10 Unpair Remote Relay



12.0 PROGRAMING DINB100-SA WITH KEYPAD

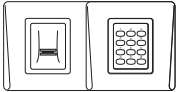


12.11 Entry Mode Settings

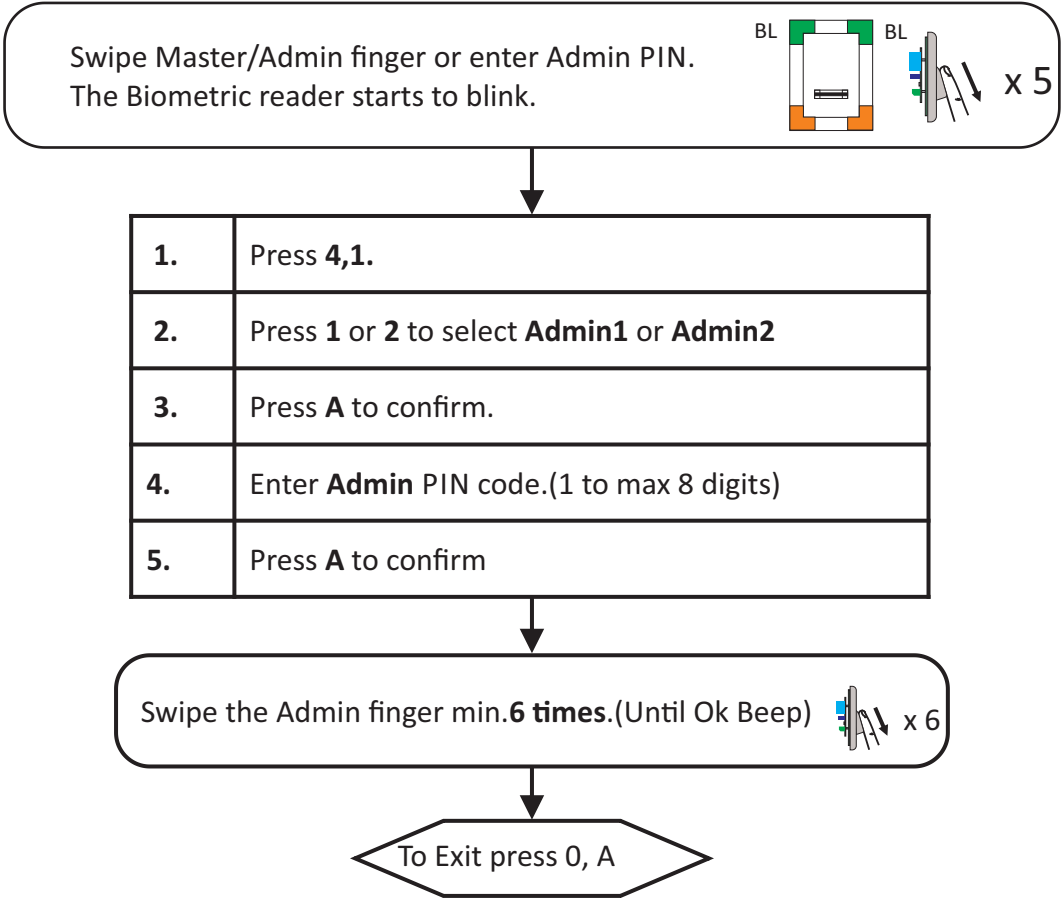


Example:  
Task: Set the Reader to work in “Finger and PIN” mode  
  
Scroll Master Finger 5 times, press 3, 4, press 3, press A, press 0,A to exit.

12.0 PROGRAMING DINB100-SA WITH KEYPAD

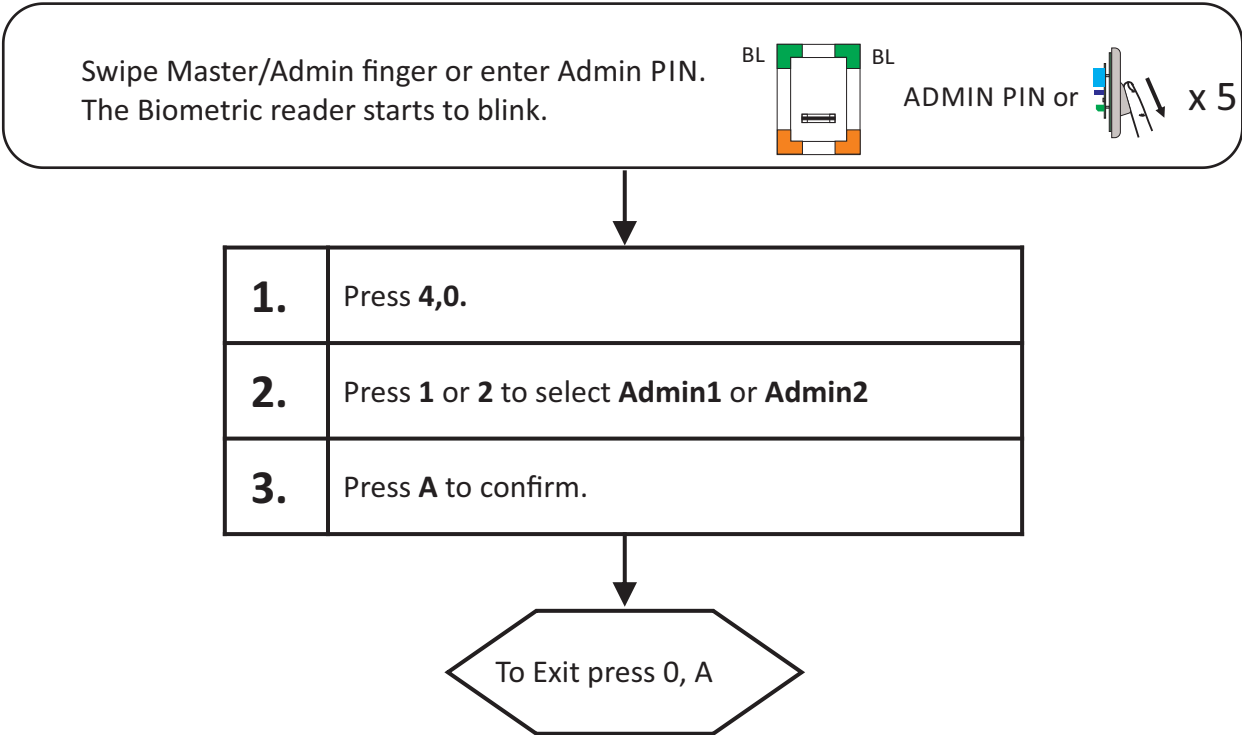


12.12 Add Administrator



- There is 1 Master Finger, but no master PIN Code. The master finger can enroll/delete user and all the other settings.
- The Master finger can be changed ONLY with the jumper.
- There are 2 Administrator Fingers and 2 Administrator PIN Codes. In order to enrol Admin, Master Finger MUST be enrolled first. The administrator can do all the things that Master can do. The Master can delete the Administrator, but the Administrator can not delete the Master.

12.13 Delete Administrator

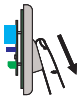



12.0 PROGRAMING DINB100-SA WITH KEYPAD

12.14 Reset to defaults

product ver. 1.0.2.0.0

Swipe Master/Admin finger or enter Admin PIN.  
The Biometric reader starts to blink.



1.	Press 3,6.
2.	Press 9,1,4,7.
3.	Press A to confirm

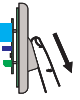

To Exit press 0, A

Note:  
Does not affect the fingerprints stored and the pairing

12.15 Double Swipe Unlocks Door

product ver. 1.0.2.0.0

Swipe Master/Admin finger or enter Admin PIN.  
The Biometric reader starts to blink.



1.	Press 3,3.						
2.	Select the <b>Double Swipe</b> from the table						
<table><tr><th></th><th>Double swipe Unlocks Door</th></tr><tr><td>1</td><td>Enable</td></tr><tr><td>2</td><td>Disable</td></tr></table>			Double swipe Unlocks Door	1	Enable	2	Disable
	Double swipe Unlocks Door						
1	Enable						
2	Disable						
3.	Press A to confirm.						

To Exit press 0, A

Note:  
Refer to Chapter 10 for this feature



This product herewith complies with requirements of EMC directive 2014/30/EU. In addition it complies with RoHS directive EN50581:2012

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